DEPARTMENT OF ENVIRONMENTAL QUALITY

KATHLEEN BABINEAUX BLANCO
GOVERNOR

MIKE D. McDANIEL, Ph.D.
SECRETARY

JAN 11 2006

CERTIFIED MAIL 7004 1160 0000 3793 5927
RETURN RECEIPT REQUESTED

Mr. Dennis C. Fec
Georgia Gulf Chemicals
26100 LA Highway 405
Plaquemine, LA 70765-0629

RE: Brine Precipitate Processing Facility
Notice of Technical Completeness
AI#100490 / P-007-12342 / PER20040001
Assumption Parish

Dear Mr. Fec:

The Water and Waste Permits Division is in receipt of the final copies of your permit application dated June 28, 2005 and subsequent submittals. After review of these documents, we have determined that your application is technically complete and ready for public review.

The Environmental Assistance Division will distribute copies of your application for public review and place public notices in the appropriate newspapers in accordance with LAC 33:VII.513.F.3. Please contact Ms. Soumaya Ghosn at (225) 219-3276 for the date of publication and the dates for the comment period. At the conclusion of the comment period, the Water and Waste Permits Division will consider all comments and a decision will be made regarding your application.

Please reference Agency Interest Number 100490, Site Identification Number P-007-12342, and Permit Activity Number PER20040001 on all future correspondence pertaining to this facility. If you have any questions concerning this matter, please contact Kelley Templet at (225) 219-3068.

Sincerely,

Lenny Young
Administrator
Water and Waste Permits Division

kt

c: Yolunda Righteous, Providence Engineering

ENVIRONMENTAL **SERVICES**
: PO BOX 4313, BATON ROUGE, LA 70821-4313
P:225-219-3181 F:225-219-3309
WWW.DEQ.LOUISIANA.GOV

Georgia Gulf Chemicals & Vinyls, LLC
(225) 685-2500
(225) 298-2500

26100 LA Highway 405
Post Office Box 629
Plaquemine, LA 70765-0629

COPY

June 27, 2005

Hand Delivered

RECEIVED
JUL 05 2005
WATER & WASTE PERMITS DIVISION
SOLID & HAZARDOUS WASTE SECTION

Beth Scardina
Department of Environmental Quality
Solid and Hazardous Waste Permit
P.O. Box 4313
Baton Rouge, LA 70821-4313

original to ICSW
& cc copy to Waste Ga/Journal
A.V.G

Re: **1996 Notice of Deficiency Resubmittal**
Georgia Gulf Chemicals and Vinyls, LLC
✓FACILITY AI NO. 100490/P-007-12342/PER20040001

Dear Ms. Scardina:

Please find enclosed six (6) copies of the final application for Georgia Gulf Chemicals and Vinyls, LLC's Grand Bayou Brine Precipitate Processing Facility. The Louisiana Department of Environmental Quality (LDEQ) has requested these copies in a letter dated June 3, 2005 which was received by Georgia Gulf on June 7, 2005. All responses to the LDEQ's Notice of Defieciencies have been incorporated into the enclosed applications.

Should you have any questions concerning this matter, please contact Casey Crow at (225) 298-2631.

Sincerely,

Dennis C. Fec
Environmental Manager

DCF\CWC

File 502.4

RECEIVED
JUN 28 2005
LDEQ

GEORGIA GULF CHEMICALS & VINYLS, LLC
BRINE PRECIPITATE PROCESSING FACILITY
GRAND BAYOU, LOUISIANA
ASSUMPTION PARISH

TYPE I-A
SOLID WASTE PERMIT APPLICATION
AGENCY INTEREST NUMBER100490

JUNE 2005

PREPARED BY:

PROVIDENCE ENGINEERING AND ENVIRONMENTAL GROUP LLC
6160 PERKINS ROAD, SUITE 100
BATON ROUGE, LOUISIANA 70808
(225) 766-7400

PROVIDENCE ENGINEERING PROJECT NO. 055-002

TABLE OF CONTENTS

LIST OF TABLES

Tables

LIST OF FIGURES

Figures

LIST OF APPENDICES

Appendices

LIST OF EXHIBITS

Exhibits

INTRODUCTION

Georgia Gulf Chemicals & Vinyls, LLC (GGCV) currently operates a Chlorine Caustic Plant at its Plaquemine facility located in Iberville Parish, Louisiana. The facility is approximately 300 feet south of the bank of the Mississippi River. Additionally, GGCV proposes to permit a Type I-A solid waste processing facility at 1159 Highway 70 South, Grand Bayou, Louisiana. The GGCV Plaquemine facility is approximately 20 miles north of the proposed processing facility. The processing facility will be located within the boundaries of the existing GGCV brine production facility, which is currently operated by Texas Brine Company, LLC (Texas Brine).

The GGCV Plaquemine facility utilizes brine generated from the Napoleonville Salt Dome. The brine is mined from brine caverns by pumping water into the salt formation. Sodium Chloride (Salt), along with impurities (calcium, magnesium, strontium, barium, and other compounds) dissolves in the water within the cavern and is carried to the surface. The brine is then piped from the GGCV Grand Bayou location to GGCV's Plaquemine facility.

At the GGCV Plaquemine facility, the brine is purified to remove the impurities so that it can be utilized in the Chlorine/Caustic plant. The brine purification begins with combining sodium hydroxide and carbon dioxide to form soda ash, which is used to increase the pH of the brine to a range of 10 to 10.5 that precipitates the impurities. The precipitated impurities are then removed from the brine with polymer enhanced clarification and filtration techniques. Once precipitated, the solid impurities have a moisture content of approximately 40% to 70%.

GGCV proposes to return the brine precipitate via transport vessel to the Type I-A processing facility, which will be operated by Texas Brine Company, LLC personnel, placing the material in an agitated in-ground tank, and returning the precipitate to the brine cavern(s) as a slurry.

This application for a Type I-A processing permit addresses all applicable requirements and standards for the in-ground tank that will be used to process the brine precipitate prior to returning to the brine cavern(s).

Even though GGCV is submitting a Type I-A solid waste processing permit application for the brine precipitate facility, a groundwater certification application was submitted to the administrative authority since the construction plan for the facility proposes the installation of pilings to build a truck unloading ramp and foundation slab for the agitated in-ground tank. The groundwater certification application was submitted to the Louisiana Department of Environmental Quality (LDEQ) Environmental Technology Division on April 22, 2005. The groundwater certification application was approved by the Environmental Technology Division on May 23, 2005. A copy of the Groundwater Certification is included in **Exhibit 1**.

LAC 33:VII.519

PART I: PERMIT APPLICATION FORM

LAC 33:VII.520

COMPLIANCE INFORMATION

ATTACHMENT 1

Addendum to Permit Applications
Per LAC 33:I.1701

1. There are no other states where Georgia Gulf Chemicals & Vinyls, LLC has federal or state environmental permits identical to, or of a similar nature to, the permit being applied for.

2. Georgia Gulf Chemicals & Vinyls, LLC is not delinquent in the payment of any outstanding final penalties to the Louisiana Department of Environmental Quality (LDEQ). This application is for a proposed (not existing) Type I-A Brine Precipitate Processing Facility. Therefore, there is no compliance history associated with the proposed facility.

3. Georgia Gulf Chemicals & Vinyls, LLC is required to register with the Secretary of State, and did so on November 5, 1999. A copy of proof of registration is enclosed as Attachment 2.

ATTACHMENT 2

CERTIFICATE OF REGISTRATION

UNITED STATES OF AMERICA

State of Louisiana

Fox McKeithen

SECRETARY OF STATE

As Secretary of State, of the State of Louisiana, I do hereby Certify that

the Application Form for Certificate of Authority of

GEORGIA GULF CHEMICALS & VINYLS, LLC

Domiciled at WILMINGTON, DELAWARE,

Was filed and recorded in this Office on November 05, 1999,

Thus authorizing the limited liability company to exercise the same rights and privileges accorded similar domestic limited liability companies, subject to the provisions of R. S. Title 12, Chapter 22, Part VIII.

In testimony whereof, I have hereunto set my hand and caused the Seal of my Office to be affixed at the City of Baton Rouge on,

November 5, 1999

Fox McKeithen

BBE 348575040
Secretary of State

STATE OF LOUISIANA
UNION JUSTICE CONFIDENCE
SECRETARY OF STATE

CERTIFICATE SS 102 S (R-3/88)

LAC 33:VII.521

PART II: SUPPLEMENTARY INFORMATION, ALL PROCESSING AND DISPOSAL FACILITIES

§521. Part II: Supplementary Information, All Processing and Disposal Facilities

The following information is required in the permit application for solid waste processing and disposal facilities. All responses and exhibits must be identified in the following sequence to facilitate the evaluation. Additionally, all applicable sections of LAC 33:VII.Chapter 7 must be addressed and incorporated into the application responses. If a section does not apply, the applicant must state that it does not apply and explain why.

A. Location Characteristics. Standards pertaining to location characteristics are contained in LAC 33:VII.709.A (Type I and II facilities), LAC 33:VII.717.A (Type I-A and II-A facilities), and LAC 33.719.A (Type III facilities).

1. The following information on location characteristics is required for all facilities:

a. Area Master Plans - a location map showing the facility, road network, major drainage systems, drainage-flow patterns, location of closest population center(s), location of the public-use airport(s) used by turbojet aircraft or piston-type aircraft, proof of notification of affected airport and Federal Aviation Administration as provided in LAC 33:VII.709.A.2, location of the 100-year flood plain, and other pertinent information. The scale of the maps and drawings must be legible, and engineering drawings are required.

The Georgia Gulf Chemicals & Vinyls, LLC (GGCV) Type I-A Brine Precipitate Processing Facility (facility) will be located in Grand Bayou, in Assumption Parish, Louisiana. Primary access to the facility is generally available from Louisiana Highway 70. The location of the facility and access roads are identified on the site location map (**Figure 1**). As required by the Louisiana Administrative Code (LAC) 33:VII.717.A.I, access to the facility is by all-weather roads that meet the demands of the facility and are designed to avoid, to the extent practical, congestion, sharp turns, obstructions, or other hazards conducive to accidents. The surface roadways will be adequate to withstand the weight of transportation vehicles.

Figure 1 also depicts the general location of the site. The map shows the nearest population centers and the drainage patterns for the area. GGCV will not process or dispose of putrescible solid waste in the permitted Type I-A processing facility.

The closest public-use airports are Baton Rouge Metropolitan Airport, located approximately 38 miles to the north and Louis Armstrong New Orleans International Airport, located 52 miles to the East.

The location of the 100-year floodplain is shown on **Figure 2**.

b. **A letter from the appropriate agency or agencies regarding those facilities receiving waste generated off-site, stating that the facility will not have a significant adverse impact on the traffic flow of area roadways and that the construction, maintenance, or proposed upgrading of such roads is adequate to withstand the weight of the vehicles.**

As stated, access to the site will be by all-weather roads that can meet the demands of the facility and are designed to avoid, to the extent practical, congestion, sharp turns, obstructions, or other hazards conducive to accidents. The surface roadways will be adequate to withstand the weight of transportation vehicles. Evidence of this is included in **Appendix D** (State Letter, Louisiana Department of Transportation and Development).

c. **Existing Land Use - a description of the total existing land use within three miles of the facility (by approximate percentage) including, but not limited to:**

The existing land use within three miles of the facility is summarized as follows:

i.	residential	3%
ii.	health-care facilities and schools	0%
iii.	agricultural	34%
iv.	industrial and manufacturing	2%
v.	other commercial	2%
vi.	recreational	7%
vii,	undeveloped	52%

(Information from Land Use Database, Louisiana Oil Spill Coordinator's Office).

d. **Aerial Photograph. A current aerial photograph, representative of the current land use, of a one-mile radius surrounding the facility. The aerial photograph shall be of sufficient scale to depict all pertinent features.**

(The administrative authority may waive the requirement for an aerial photograph for Type III facilities.)

A current aerial photograph is shown on **Figure 3**.

e. **Environmental Characteristics-the following information on environmental characteristics:**

i. **a list of all known historic sites, recreation areas, archaeologic sites, designated wildlife-management areas, swamps and marshes, wetlands, habitats for endangered species, and other sensitive ecologic areas with 1,000 feet of the facility perimeter or as otherwise appropriate;**

Based on correspondence (**Appendix D**) from the Louisiana Department of Culture, Recreation, and Tourism and the Louisiana Department of Wildlife and Fisheries regarding this site, there are no known historic sites, recreation areas, archaeologic sites, designated wildlife-management areas, swamps and marshes, woodlands, or other sensitive ecologic areas within 1,000 feet of the facility perimeter.

The Louisiana Department of Wildlife and Fisheries (LDWF) did indicate that there were possible habitats for endangered species within 1,000 feet of the facility perimeter. However, LDWF did state in a letter dated December 1, 2003 that the proposed project is not expected to impact any endangered species in the area.

ii. **documentation from the appropriate state and federal agencies substantiating the historic sites, recreation areas, archaeologic sites, designated wildlife-management areas, wetlands, habitats for endangered species, and other sensitive ecologic areas with 1,000 feet of the facility; and**

A request for a determination regarding the above-noted environmentally sensitive areas has been made as it relates to this permit application. The documentation is available in **Appendix D**.

iii. **a description of the measures planned to protect the areas listed from the adverse impact of operation at the facility;**

Not applicable. There are no known historic sites, recreation areas, archaeologic sites, designated wildlife-management areas, swamps and marshes, woodlands, habitats for endangered species, or other sensitive ecologic areas within 1,000 feet of the facility perimeter that will be adversely impacted by the operations of the proposed facility.

f. **A wetlands demonstration, if applicable, as provided in LAC 33:VII.709.A.4.**

A wetlands demonstration is not applicable to this permit application. The portion of the site located in the delineated wetlands area is in the process of being permitted. Correspondence regarding the Section 404 permit and the Section 404 permit are included in **Appendix B**.

g. **Demographic Information-the estimated population density within a three-mile radius of the facility boundary, based on the latest census figures.**

The estimated population within a three-mile radius of the facility is 509 people, based upon the U.S. Census Bureau 2000 Census information. The estimated population density is 18.0 people per square mile. The following table provides a comparison of the estimated total population and population density within a 1-, 2-, and 3- mile radius of the facility.

Radius in Miles from Facility	Estimated Total Population	Estimated Housing Units	Estimated Population Density (persons/mi^2)
1.0	33	22	10.6
2.0	299	182	23.7
3.0	509	289	18.0

The estimated population and housing count for the area surrounding the facility is based upon LandView Census 2000 Population Estimator. The population estimator uses Census 2000 block points to provide the most precise estimate for small areas (*i.e.*, radii of 1-3 miles). The estimate is created by tallying Census 2000 block data for those block centroids (*i.e.*, calculated centers) whose coordinates fall within the circle defined by the radius. The demographic data is based

upon the Census 2000 Population and Housing Summary File 1 (SF1) data.

2. **The following information regarding wells, faults and utilities is required for Type I and II facilities:**

   a. **Wells. Map showing the locations of all known or recorded shot holes and seismic lines, private water wells, oil and/or gas wells, operating or abandoned, within the facility and within 2,000 feet of the facility perimeter and the locations of all locations of all public water systems, industrial water wells and irrigation wells within one mile of the facility. A plan shall be provided to prevent adverse effects on the environment from the wells and shot holes located on the facility.**

   The facility is not a Type I or Type II facility and the above requirements are not required by LAC 33:VII.717. Nevertheless, GGCV addresses the above requirements by providing the Well Location Map as **Figure 4**. A list of the registered water wells is included in **Appendix D**.

   b. **Faults**

      i. **scaled map showing the locations of all recorded faults within the facility and within one mile of the perimeter of the facility; and**

      The facility is a Type I or Type II facility and the above requirement is not required by LAC 33:VII.717. Moreover, there are no known faults in Assumption Parish.

      ii. **demonstration, if applicable, of alternative fault set-back distance as provided in LAC 33:VII.709.A.5.**

      The above citation is not applicable. There are no known faults in Assumption Parish

   c. **Utilities. Scaled map showing the location of all pipelines, power lines, and right-of-ways within the site.**

   The facility is not a Type I or Type II facility and the above requirement is not required by LAC 33:VII.717. Nevertheless, GGCV addresses the above requirements by providing a Utilities Location Map as **Figure 5**.

B. Facility Characteristics. Standards concerning facility characteristics are contained in LAC 33:VII.709.B (Type I and II facilities), LAC 33.VII.717.B (Type I-A and II-A facilities), and LAC 33:VII.719.B (Type III facilities). A facility plan, including drawings and a narrative, describing the information required below must be provided.

1. The following information is required for all facilities:

a. elements of the process or disposal system employed, including, as applicable, property lines, original contours (shown at not greater than five-foot intervals), buildings, units of the facility, drainage, ditches and roads;

The facility will be located in Section 41, Township 12 South, Range 13 East, Assumption Parish, Louisiana on property leased by GGCV. A map showing general facility layout, property lines, existing topographic structural features, and the facility location is provided as **Figure 6**. **Figure 6** shows that the subject facility is completely within the property boundaries of GGCV leased property.

b. the perimeter barrier and other control measures;

The area is only accessible by two roads. Both roads are gated and remain closed at all times. The gates can only be opened by employees of the facility. The gates prevent unauthorized ingress or egress, except by willful entry. The perimeter barrier and other control features (wooded areas) are shown on **Figure 6.**

A sign listing the types of waste processed by the facility will be posted at the entrance to the facility.

During operating hours, each facility entry point shall be continuously monitored, manned, or locked.

During nonoperating hours, each facility entry point shall be locked.

c. a buffer zone;

The proposed facility is located within the property boundaries of the GGCV Grand Bayou Facility. However, property owned by Texas Brine is within the required 200-foot buffer zone. As a result, Texas Brine has notified GGCV in writing that it has no objection to the LDEQ issuing

a buffer zone waiver under the terms of the solid waste regulations. Texas Brine has also agreed to provide the necessary notarized document (**Appendix E**) granting the LDEQ permission to waive the buffer zone requirements. The 200-foot buffer zone around the proposed facility is outlined on **Figure 6.** No storage, processing, or disposal of solid waste shall occur within the buffer zone.

During operating hours, each facility entry point shall be continuously monitored, manned, or locked.

During nonoperating hours, each facility entry point shall be locked.

d. fire-protection measures;

Although the possibility of fire or other emergencies from the operation of the facility is unlikely, Texas Brine has emergency procedures in place to respond to any type of emergency that might arise at the facility. Employees are trained in the use of hand held fire extinguishers; however, employees will not attempt to extinguish large process fires that are unlikely to occur. Plans are also in place to transport seriously injured personnel to a local hospital. The emergency procedures (**Appendix K**) will be reviewed annually or more often as needed.

As stated, the facility does not present a fire hazard. Nevertheless, fire protection and medical care services are available locally. Furthermore, documentation from the local fire department and hospital will be submitted to the Administrative Authority prior to commencing operations and will be included in **Appendix D**. The documentation will address the ability of these facilities to meet the requirement of R.S. 30:2157.

e. landscaping and other beautification efforts;

The facility is located within the property boundaries of an established brine production facility. Therefore, the requirement of landscaping to improve the aesthetics of the facility listed in LAC 33:VII.717.B.4 is not applicable to this facility. Additionally, the operations will not be visible from LA Highway 70.

f. devices or methods to determine, record, and monitor incoming waste;

All waste shipments to the facility will be initially staged at the GGCV Plaquemine facility, which will be equipped with a device or method to determine quantity (by wet-weight) on a monthly basis, sources, and types of outgoing waste. GGCV will analyze the incoming brine stream to determine the quantity of the resulting brine precipitate. The density and the volume of the brine will be used to determine the quantity of brine precipitate by wet-weight produced monthly and annually. Additionally, GGCV may utilize an alternate method if an alternate method proves to be more accurate. The method will be detailed on the annual report. The facility will also prevent transport of unrecorded or unauthorized deliverables (*i.e.*, hazardous, unauthorized, or unpermitted materials).

No hazardous waste or otherwise unacceptable waste will be processed at the facility. Only brine precipitate generated at the GGCV Plaquemine facility will be allowed for processing at the facility. The quantity (wet-weight) of loads destined for the processing facility will be estimated prior to shipment from the GGCV Plaquemine facility.

The operator at the processing facility will have the authority to accept or reject waste at the entrance gate in accordance with the Operational Plan **(Appendix F)**. Additionally, manifests will be provided for the operator that will be used to record and ensure that the correct delivery has been made.

g. NPDES discharge points (existing and proposed); and

Not applicable. No discharges will be associated with the proposed facility.

h. other features, as appropriate.

There are no additional features identified that require discussion.

2. **The following information is required for Type I and II facilities;**

   a. **areas for isolating nonputrescible waste or incinerator ash, and borrow areas; and**

      GGCV acknowledges the above citation; however, the facility is not a Type I or Type II facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

   b. **location of leachate collection/processing/removal system.**

      GGCV acknowledges the above citation; however, the facility is not a Type I or Type II facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

C. Facility Surface Hydrology. Standards governing facility surface hydrology are contained in LAC 33:VII.711.A (Type I and II landfills), LAC:VII.713.A (Type I and II surface impoundments), LAC 33:VII.715.A (Type I and II landfarms), LAC 33:VII.717.C (Type I-A and II-A facilities), and LAC 33:VII.719.C (Type III facilities).

1. The following information regarding surface hydrology is required for all facilities:

a. a description of the method to be used to prevent surface drainage through the operating areas of the facility;

The outermost perimeter levee of the facility shown on **Figure 6** is constructed to a minimum of 6 feet National Geodectic Vertical Datum (NGVD). The sidewalls of the processing tank will be constructed to a minimum 7 feet NGVD. The perimeter levee and side walls of the processing facility will prevent run-on from entering the processing facility, divert storm water toward existing drainages located within the perimeter levee system, and provide sufficient freeboard for flooding and wave action. Additionally, a six-inch curb will surround the processing area. The pad for the processing area is constructed of concrete. All rainwater that falls inside the curbed area will be routed to the in-ground tank and will be pumped into the brine tank.

b. a description of the facility runoff/run-on collection system;

The system will be constructed in such a way to create no run-off and take no run-on within the curbed area. Anything that falls inside of the curbed area will remain contained within the concrete pad. The curbed area will also ensure that there is no run-on.

c. the maximum rainfall from a 24-hour/25-year storm event;

The maximum 24-hour, 25-year rainfall is approximately 9 inches based on "Technical Paper No. 40, Rainfall Frequency Atlas of the United States" published by the U.S. Department of Commerce Weather Bureau.

d. **the location of aquifer recharge areas in the site or within 1,000 feet of the site perimeter, along with a description of the measures planned to protect those areas from the adverse impact of operations at the facility; and**

An Aquifer Recharge Map is included as **Figure 7**. The facility is located above the Alluvial Aquifer with no identified recharge potential.

e. **if the facility is located in a flood plain, a plan to ensure that the facility does not restrict the flow of the 100-year base flood or significantly reduce the temporary water-storage capacity of the flood plain, and documentation indicating that the design of the facility is such that the flooding does not affect the integrity of the facility or result in the washout of solid waste.**

As discussed, the perimeter levee system and the sidewalls of the processing facility are designed and constructed to protect the facility from flooding and related effects. The tank system is located within a levee system above the 100-year flood elevation. The construction of the tank will not impact flow of the 100-year flood or significantly reduce the temporary water storage capacity of the flood plain.

The FEMA Flood Insurance Rate Maps (FIRM) do not have an elevation listed for the 100-year floodplain for the facility. However, the 100-year floodplain elevation is approximately 6 feet NGVD based upon interpolation of the USGS 7.5 minute quadrangle overlain with the FIRM by FEMA.

D. Facility Geology. Standards governing facility geology are contained in LAC 33:VII.709.C (Type I and II facilities), LAC 33:VII.717.D (Type I-A and II-A facilities), and LAC 33:VII.719.D (Type I-A and II-A facilities), and LAC 33:VII.719.D (Type III facilities).

1. **The following information regarding geology is required for Type I and Type II facilities:**

   a. **isometric profile and cross-sections of soils, by type, thickness, and permeability;**

   b. **logs of all known soil borings taken on the facility and a description of the methods used to seal abandoned soil borings;**

   c. **results of tests for classifying soils (moisture contents, Atterberg limits, gradation, etc.), measuring soil strength, and determining the coefficients of permeability, and other applicable geotechnical tests;**

   d. **geologic cross-section from available published information depicting the stratigraphy to a depth of at least 200 feet below the ground surface;**

   e. **for faults mapped as existing through the facility, verification of their presence by geophysical mapping or stratigraphic correlation of boring logs. If the plane of the fault is verified within the facility's boundaries, a discussion of measures that will be taken to mitigate adverse effects on the facility and the environment;**

   f. **for a facility located in a seismic impact zone, a report with calculations demonstrating that the facility will be designed and operated so that it can withstand the stresses caused by the maximum ground motion, as provided in LAC 33:VII.709.C.2; and**

   g. **for a facility located in an unstable area, a demonstration of facility design as provided in LAC 33:VII.709.C.3.**

   Although, the following information is not required by LAC 33:VII.521.D.1.a-g, the soils at the facility were characterized in accordance with LAC 33:VII.717.D.1 (standards for Type I-A processing facilities) of the Solid Waste Regulations. Specifically, the upper seven feet of soil is characterized as a silty clay. Soils with permeabilities less than 10^{-6} centimeters per second (cm/s) are essentially impervious.

Typical coefficients of permeabilities for silty clays are 10^{-7} to 10^{-8} cm/s.

The soils located at the facility are generally described as follows:

Zero to seven feet below ground surface (bgs) is composed of silty clay with very good cohesive and plastic properties. This upper silty clay is scattered with silt laminations. Trace rootlets and iron staining is also present.

The silty clay grades to a clayey silt at seven feet bgs and extends to eight feet bgs. The clayey silt has poor cohesive and plastic properties. Silt laminations are scattered throughout. Very small mica flakes are also present.

Eight to nine feet bgs is clay. This clay has a soft to medium stiff consistency with very good cohesive and plastic properties.

Nine to 15.5 feet bgs returns to a silt. The silt has a very soft to medium stiff consistency with poor cohesive and plastic properties. A distinguishing factor of this zone is a one half inch thick organic lens at fifteen feet bgs. A very fine grained sand is present in this interval towards its base.

The silt grades to clay at 15.5 feet bgs and extends to boring termination at 24 feet bgs. This clay's consistency is generally very soft in the upper section and begins firming at 19 feet bgs. A two-inch silt lens is present at 20 feet bgs. The clay has good cohesive properties, but poor plasticity. Trace shell fragments are present at 23.5 feet bgs.

One boring, designated BH-1, was advanced to 24 feet below ground surface on October 17, 2003 as part of this Type 1-A Solid Waste Permit Application. A copy of this boring log is included as **Appendix G**. The Boring Location Map and the required certification are also included in **Appendix G**.

Upon completion, the boring was grouted to the surface using a cement/bentonite mixture (4 to 8 percent bentonite by dry weight per 94-pound sack of cement) mixed with approximately 8.5 gallons of water per bag of cement. The mixing was continued until a smooth lump free consistency was achieved.

The grout mixture was pumped from the bottom of the boring to the surface using a side discharge tremie pipe. This was continued until undiluted grout flowed from the ground surface.

A groundwater certification application was submitted to the administrative authority since the construction plan for the facility proposes the installation of pilings to build a truck unloading ramp and foundation slab for the agitated in-ground tank. The groundwater certification application was submitted to the Louisiana Department of Environmental Quality (LDEQ) Environmental Technology Division on April 22, 2005. The groundwater certification application was approved by the Environmental Technology Division on May 23, 2005. A copy of the Groundwater Certification is included in **Exhibit 1**. One boring (BH-2) was installed at the proposed facility in support of the groundwater certification submittal. The boring was installed immediately adjacent to BH-1 (See **Exhibit 1** for the Boring Log Location Map and the Log of Borehole BH-2)

2. **The following information regarding geology is required by Type III woodwaste, and construction/demolition-debris facilities:**

   a. **general description of the soils provided by a qualified professional (a geotechnical engineer, soil scientist, or geologist) along with a description of the method used to determine soil characteristics; and**

   b. **Logs of all known soil borings taken on the facility and a description of the methods used to seal abandoned soil borings.**

   GGCV acknowledges the above citation; however, the facility is not a Type III woodwaste and construction/demolition debris facility. Therefore, sections D.2.a-b are not applicable.

E. Facility Subsurface Hydrology. Standards governing facility subsurface hydrology are contained in LAC 33:VII.715.A (Type I and II landfarms).

1. The following information on subsurface hydrology is required for all Type I facilities and Type II landfills and surface impoundments:

a. delineation of the following information for the water table and all permeable zones from the ground surface to a depth of at least 30 feet below the base of excavation:

i. areal extent beneath the facility;

ii. thickness and depth of the permeable zones and fluctuations;

iii. direction(s) and rate(s) of groundwater flow based on information obtained from piezometers and shown on potentiometric maps; and

iii. any change in groundwater flow direction anticipated to result from any facility activities.

GGCV acknowledges the above citation; however, the facility is not a Type I or Type II disposal facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

b. delineation of the following, from all available information, for all recognized aquifers which have their upper surfaces within 200 feet of the ground surface:

i. aerial extent;

ii. thickness and depth to the upper surface;

iii. any interconnection of aquifers; and

iv. direction(s) and rate(s) of groundwater flow shown on potentiometric maps.

GGCV acknowledges the above citation; however, the facility is not a Type I or Type II disposal facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

2. **The following information on subsurface hydrology is required for Type II landfarms. Delineation of the following information for the water table and all permeable zones from the ground surface to a depth of at least 30 feet below the zone of incorporation:**

   a. **aerial extent beneath the facility;**

   b. **thickness and depth of the permeable zones and fluctuations;**

   c. **direction(s) and rate(s) of groundwater flow based on information obtained from piezometers and shown on potentiometric maps; and**

   d. **any change in groundwater flow direction anticipated to result from any facilities activities.**

   GGCV acknowledges the above citation; however, the facility is not a Type II landfarm and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

F. Facility Plans and Specifications. Standards governing facility plans and specifications are contained in LAC 33:VII.711.B (Type I and II landfills), LCA 33:VII.713.B (Type I and II surface impoundments), LAC 33:VII.715.B (Type I and II landfarms), LAC 33:717.E (Type I-A and II-A facilities), LAC 33:VII.721.A (Type III construction and demolition debris and woodwaste landfills), LCA 33:VII.723.A (Type III composting facilities), LAC 33:VII.725.A (Type III separation facilities). Standards for groundwater monitoring are contained in LAC 33:VII.709.E (Type I and II facilities).

1. Certification-The person who prepared the permit application must provide the following certification:

"I certify under penalty of law that I have personally examined and I am familiar with the information submitted in this permit application and that the facility as described in this permit application meets the requirements of the Solid Waste Rules and Regulations. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment."

The required certification statement for the information provided in this permit application is included in **Appendix H**.

The proposed plans and layout of the processing tank are shown on **Figure 8**. Field modifications to the plans may be performed as needed during construction and included in the certification document.

Levees around the perimeter of the facility have been constructed to an elevation that would provide adequate safeguard from flooding. In addition, the facility and access to the facility will be constructed to a level at or above the 100-year flood.

The perimeter levee has been engineered to minimize wind and water erosion and has a grass cover or other protective cover to preserve structural integrity.

Waste will not be stored or transported to the facility at times that may be unsafe due to flooding conditions. Typically, wastes processed in the Type I-A facility is deep well injected and the tank is washed with clean water. No waste is maintained in the Type I-A facility unless equipment failure prevents the disposal of waste.

2. **Type following information on plans and specifications is required for Type I and Type II facilities:**

   a. **detailed plan-view drawing(s) showing original contours, proposed elevations of the base of units prior to installation of the liner system, and boring locations;**

   b. **detailed drawings of slopes, levees, and other pertinent features; and**

   c. **the type of material and its source for levee construction. Calculations shall be submitted *demonstrating that an adequate volume of material is* available for the required levee construction.**

      GGCV acknowledges the above citation; however, the facility is not a Type I or Type II facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

3. **The following information on plans and specifications is required for Type I, II, and III landfills:**

   a. **approximate dimensions of daily fill and cover; and**

   b. **the type of cover material and its source for daily, interim, and final cover. Calculations shall be submitted demonstrating that an adequate volume of material is available for daily, interim, and final cover.**

      GGCV acknowledges the above citation; however, the facility is not a Type I, II, or III landfill and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

4. **The following information on plans and specifications for the prevention of groundwater contamination must be submitted for Type I and II facilities:**

   a. **representative cross-sections and geologic cross-sections showing original and final grades, approximate dimensions of daily fill and cover, drainage, the water table, groundwater conditions, the location and type of liner, and other pertinent information;**

   b. **a description of the liner system, which shall include: calculations of anticipated leachate volumes, rationale for particular designs of such systems, and drawings; and**

c. **a description of the leachate collection and removal system, which shall include calculations of anticipated leachate volumes, rationale for particular designs of such systems, and drawings.**

GGCV acknowledges the above citation; however, the facility is not a Type I or II facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

5. **The following information on plans and specifications for groundwater monitoring must be provided for Type I and II facilities:**

a. **a minimum of three piezometers or monitoring wells in the same zone must be provided in order to determine groundwater flow direction;**

b. **for groundwater monitoring wells, cross-sections illustrating construction of wells, a scaled map indicating well locations and the relevant point of compliance, and pertinent data on each well, presented in tabular form, including drilled depth, the depth to which the well is cased, screen interval, slot size, elevations of the top and bottom of the screen, casing size, type of grout, ground surface elevation, etc.;**

c. **a groundwater monitoring program including a sampling and analysis plan that includes consistent sampling and analysis procedures that ensure that monitoring results provide reliable indications of groundwater quality;**

d. **for an existing facility, all data on samples taken from monitoring wells in place at the time of the permit application must be included. (If this data exists in the Solid Waste Division records, the administrative authority may allow references to the data in the permit application.) For an existing facility with no wells, groundwater data shall be submitted within 90 days after the installation of monitoring wells. For a new facility, groundwater data (one sampling event) shall be submitted before waste is accepted;**

e. **a plan for detecting, reporting, and verifying changes in groundwater; and**

f. **the method for plugging and abandonment of groundwater monitoring systems.**

GGCV acknowledges the above citation; however, the facility is a Type I or Type II facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

6. **The facility plans and specifications for Type I and II landfills and surface impoundments (surface impoundments with on-site closure and a potential to produce gases) must provide a gas collection and processing or removal system.**

GGCV acknowledges the above citation; however, the facility is not a Type I or Type II landfill or surface impoundment and the above requirement is not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

G. Facility Administrative Procedures. Standards governing facility administration procedures are contained in LAC 33:VII.711.C (Type I and Type II landfills), LAC 33:VII./713.C (Type I and II surface impoundments), LAC 33:VII.715.C (Type I and II landfarms), LAC 33:VII.717.F (Type I-A and II-A facilities, LAC 33:VII.721.B (Type III construction and demolition debris and woodwaste landfills), LAC 33:VII.723.B (Type III composting facilities), and LAC 33:VII.725.B (Type III separation facilities).

1. The following information on administrative procedures is *required for all facilities:*

a. recordkeeping system; types of records to be kept; and the use of records by management to control operations;

All applicable recordkeeping requirements of the federal, state, and local governments will be met and all records maintained for the required period of time.

The GGCV Environmental Manager will prepare and sign all regulatory reports. These reports will be submitted to all appropriate agencies by the required deadline.

The following records shall also be maintained by the facility:

- Copies of the current Louisiana Solid Waste Rules and Regulations
- The solid waste permit
- The solid waste permit application
- Solid waste permit modifications
- Manifest records
- Transporter identification numbers
- Any other applicable or required data deemed necessary by the administrative authority

The facility will maintain a copy of all applicable environmental permits, annual reports, records, and other documents specified in the permit application as necessary for the effective management of the facility and for preparing the required reports. These records will also be used to ensure compliance with state and federal regulations. The records shall be maintained for the life of the facility and shall be kept on file for at least 3 years after closure. In the event that the facility is involved in an enforcement action by the LDEQ, the records will be maintained until written release has been obtained from the LDEQ.

The records will be utilized to ensure that the facility is operated in accordance with all applicable permits. The records will also be used as the foundation for all reports required by the LDEQ and for the management of information for control of facility operations.

An annual report will be submitted to the LDEQ Office of Environmental Services, Environmental Assistance Division (OES-EAD) and Permits Division indicating quantities (expressed in wet-weight tons per year) and types and sources of material processed during the reporting period.. The report will also indicate the types of materials transported for disposal, and will identify the permitted facility used for disposal of any waste. All calculations used to determine the amounts of waste received for processing (including generator) during the annual reporting period will be submitted to the OES-EAD and the Permits Division. The form used for this purpose is included in **Appendix I** and will be obtained from the LDEQ. This form will be updated if changed by the administrative authority.

The records of the transport vehicles transporting waste for processing at the facility will also be kept. The records will include the date of receipt of shipments of waste and the transporter's solid waste identification number issued by the administrative authority or by an administrative authority of an out-of-state generator.

The reporting period for the annual report shall be from July 1 through June 30, and terminating upon closure of the facility in accordance with the permit. The annual report will be submitted by August 1 of each reporting year.

A manifest system will be put in place that ensures that material generated strictly from the GGCV Plaquemine facility is processed at the facility. The manifest system will also ensure that the only material sent from the GGCV Plaquemine facility is brine precipitate.

b. an estimate of the minimum personnel, listed by general job classification, required to operate the facility; and

The facility will have adequate personnel necessary to safely and effectively achieve the operational requirements of the facility.

The only personnel required to operate the facility is the operator or his suitably trained designee. The operator has

the overall responsibility for day-to-day activities. He may at times be assisted by an assistant operator depending on the workload. The operator will operate the facility when the transport vessel is unloaded and during transfer into the cavern.

Additional personnel will be available, if necessary, to properly manage the facility.

c. **maximum days of operation week and per facility operating day (maximum hours of operation within a 24-hour period).**

Maximum operating hours for the processing facility will encompass all daylight hours seven days each week. Nighttime operations with lighting may also be implemented. Overall, days of operations will depend on the schedule of the GGCV Plaquemine facility and when material is delivered from the GGCV Plaquemine facility.

2. **Administrative procedures for Type II facilities shall include the number of facility operators certified by the Louisiana Solid Waste Operator Certification and Training Program (R.S. 37:3151 et seq.).**

This section is not applicable since the proposed facility is not a Type II facility. Additionally, the proposed facility is not a commercial solid waste facility.

H. Facility Operational Plans. Standards governing facility operational plans are contained in LAC 33:VII.711.D (Type I and II landfills), LAC 33:VII.713.D (Type I and II surface impoundments), LAC 33:VII.715.D (Type I and II landfarms), LAC 33:VII.717.G (Type I-A and II-A facilities), LAC 33:VII.721.C (Type III construction and demolition debris and woodwaste landfills), LAC 33:VII.723.C (Type III composting facilities), and LAC 33:VII.725.C (Type III separation facilities).

1. The following information on operational plans is required for all facilities:

a. types of waste (including chemical, physical and biological characteristics of industrial wastes generated on-site), maximum quantities of wastes per year, and sources of waste to be processed or disposed of at the facility;

The Operational Plan (**Appendix F**) provides a detailed discussion of the types, quantities and sources of solid waste to be processed at the facility. Waste characterization data are provided in **Appendix J**.

GGCV has tested the permitted waste stream for Toxicity Characteristics Leaching Procedure (TCLP) constituents and will test the stream upon each change in the process that may cause TCLP analysis to change. This will ensure that the waste is not a characteristic or listed waste as defined in LAC 33:V.Subpart 1, or by federal regulations.

This is a private processing facility that is used to process brine precipitate generated at the GGCV Plaquemine facility. The receipt of hazardous waste and PCB waste are strictly prohibited and prevented, per the requirements of LAC 33:VII.711.D.1.a. Additionally, the facility will not accept putrescible waste, off-site generated industrial solid waste (except for GGCV brine precipitate) and non-hazardous petroleum-contaminated media and debris generated by underground storage tanks corrective action, incinerator ash, infectious waste, or containerized or non-containerized liquid waste. The facility will not accept mercury or cadmium-bearing batteries. Therefore, the quality assurance/quality-control plan only addresses the acceptance of brine precipitate from the GGCV Plaquemine facility.

<u>Types of Waste</u>

Precipitate formed during brine purification may include residual sodium chloride (salt) along with impurities (calcium,

magnesium, strontium, barium, and other compounds). The precipitate also includes small amounts of flocculant polymer that is used to aid in the precipitating process. Once precipitated, the solid impurities have a moisture content of approximately 40% to 70%.

Quantities of Waste

The material is generated at all times at the GGCV facility while the Chlorine/Caustic unit is operable. The Chlorine/Caustic unit is operated 24 hours a day, 7 days a week except for upset conditions or maintenance activities. Brine precipitate is generated at a maximum of 100 tons/day and averages approximately 31 tons/day based on current operating conditions. The maximum annual amount of brine precipitate produced annually based on the weekly maximum is 36,500 tons/year; however, the weekly maximum amount cannot be sustained throughout the year. Therefore, the annual brine precipitate production is approximately 18,500 tons/yr.

The average brine precipitate production requires one to two vessels will be delivered per day; however, more than two vessels may be delivered in a day due to operating and transportation conditions.

Sources of Waste

The brine precipitate is generated by the purification process of brine at the GGCV Plaquemine facility. The brine is generated from the Napoleonville Salt Dome. The brine is mined from brine caverns by pumping water into the salt formation from water wells in the area. Salt along with impurities (calcium, magnesium, strontium, barium, and other compounds) dissolve in the water within the cavern and are carried to the surface. The brine is then piped from the Grand Bayou location to GGCV's Plaquemine facility. At the GGCV Plaquemine facility, the brine is purified to remove the impurities so that it can be utilized in the Chlorine/Caustic plant. The brine purification begins with combining sodium hydroxide and carbon dioxide to form soda ash, which is used to increase the pH of the brine to a range of 10 to 10.5 that precipitates the impurities. The precipitated impurities are then removed from the brine with polymer enhanced clarification and filtration techniques. Once precipitated, the solid impurities have a moisture content of approximately 40% to 70%. The brine precipitate is then loaded from a dedicated concrete area into a transport vessel for delivery to the processing facility.

b. waste-handling procedures from entry to final disposition, which could include shipment of recovered materials to a user;

Once the brine precipitate undergoes a dewatering process, they begin to accumulate in a temporary holding area. The temporary holding area is concrete. Once the brine precipitates are accumulated in the holding area, they will be loaded into a designated transport vessel. The transport vessel will be weighed before leaving the facility to ensure that all Louisiana Department of Transportation and Development (LDOTD) regulations are met. A contractor will transport the vessel from the GGCV Plaquemine facility to the processing facility. Once at the processing facility, the material will be dumped into the in-ground tank. The transport vessel will then be washed and all wash water will be routed to the in-ground tank.

Once the transport vessel enters the processing facility, it is inspected to ensure that the waste is congruent with the manifest. The transport vessel will then be backed up to the in-ground processing tank. The brine precipitate is then dumped into a side of the tank that is segregated from the mixing portion of the tank. Water or brine from on-site wells is then added to the tank and mixed by an agitator with the brine precipitate. The mixture, now approximately 70% moisture, is pumped from the tank to a salt cavern(s), which is regulated by the Louisiana Department of Natural Resources (LDNR).

The facility is only comprised of a processing area. Transport vessels deliver the brine precipitate directly to the processing area. The processing area is approximately 46' by 18'. The in-ground tank has a grated cover. There is no additional cover for the facility.

Open burning of solid waste will not occur. Salvaging is discussed in the response to LAC 33:VII.521.H.2.b and scavenging in H.2.c.

Open burning will not be practiced and there will be no salvaging or scavenging activities at the facility. Recordkeeping procedures will be employed to ensure that all pertinent activities are properly documented.

No waste will be stored long enough to cause a nuisance, health hazard, or detriment to the environment.

c. minimum equipment to be furnished at the facility;

Sufficient equipment will be provided and maintained at the facility to meet operational needs. At a minimum, the equipment needed will include an agitator, a pump for brine/precipitate removal, and a pump to deliver water/brine into the in-ground tank.

The facility will be cleaned and maintained daily to ensure that all of the equipment operates properly and efficiently.

d. plan to segregate wastes, if applicable;

Wastes are segregated at the point of origin (Plaquemine facility), prior to being transported to the facility. There is no necessity to further segregate the waste stream accepted for processing since the facility will only accept one waste stream (brine precipitate).

e. procedures planned in case of breakdowns, inclement weather, and other abnormal conditions (including detailed plans for wet-weather access and operations);

Any interruption of service at the facility will cause all incoming waste shipments to be held at the GGCV Plaquemine facility until such time that the cause of the service interruption has been resolved and normal operations have been restored at the facility.

Inclement weather does not present any problems. Effort will be made to minimize unloading and loading of material during inclement weather. However, processing and delivery can still continue.

If, for any reason, the proposed facility cannot manage the waste in an environmentally sound manner, waste shipments from GGCV's Plaquemine facility will stop. The precipitates will either be held at the Plaquemine facility at the point of generation, in containers used for transportation, or it will be delivered to an alternative processing/disposal site that is permitted to receive these waste streams.

Breakdown of equipment is not expected to be a problem since GGCV will either have backup equipment or obtain temporary replacement equipment.

f. procedures, equipment, and contingency plans for protecting employees and the general public from accidents, fires, explosions, etc., and provisions for emergency care should an accident occur (including proximity to a hospital, fire or emergency services, and training programs); and

The waste stream is not explosive nor is it flammable so fire protection equipment is minimal. The facility is within the confines of a brine production facility and should present no such hazards to the general public. Given the nature of the material and the type of operation of the facility, the likelihood of any impact to the general public or employees from fires, explosions, etc., is extremely remote.

A plan outlining facility operations and emergency procedures to be followed in case of an accident, fire, explosion, or other emergency is included in **Appendix K** and will be filed with the local fire department and the closest hospital. The plan contains the names, phone numbers, and addresses (proximity) of local emergency response teams/facilities. The plan will be updated annually or when implementation demonstrates that a revision is needed.

An annual training session will be required for all employees working at the facility. At a minimum, the program for the training session will consist of:

- Contingency plan review
- Discussions to clarify any emergencies not covered by the plan or identify any areas of the plan that require updating
- Forms documenting those employees receiving training

A copy of the safety and training program is included in **Appendix L**.

g. provisions for controlling vectors, dust, litter, and odors.

The precipitate will remain moist at all times, and no odor is associated with the precipitate. Given the nature of the operation and the material, vectors, dust, litter and odors are not expected to be a problem. All containers will provide containment of the wastes and thereby control litter, odor, and other pollution of adjoining areas. In addition, provisions will be made for at least daily cleanup of the facility, including equipment and waste-handling areas.

Should any problems arise at the facility, efforts will be made to determine the source and prevent any future occurrence.

2. **The following information on operational plans is required for Type I and II facilities:**

   a. **comprehensive operational plan describing the total operation including (but not limited to) inspection of incoming waste to ensure that only permitted wastes are accepted (Type II landfills must provide a plan for random inspection of incoming waste loads to ensure that hazardous wastes or regulated PCB wastes are not disposed of in the facility.); traffic control; support facilities; equipment operation, personnel involvement; and day-to-day activities. A quality-assurance/quality-control [QA/QC] plan shall be provided for facilities receiving industrial waste; domestic sewage sludge; incinerator ash; friable asbestos; nonhazardous petroleum-contaminated media; and debris generated from underground storage tanks [UST], corrective action, or other special wastes as determined by the administrative authority. The QA/QC plan shall include (but shall not be limited to) the necessary methodologies; analytical personnel; preacceptance and delivery restrictions; and appropriate responsibilities of the generator, transportator, processor, and disposer. The QA/QC plan shall ensure that only permitted, nonhazardous wastes are accepted;**

   b. **salvaging procedures and control, of applicable; and**

   c. **scavenging control.**

      GGCV acknowledges the above citation; however, the facility is not a Type I or II facility. Therefore, the above citation is not applicable.

3. ***The following information on operational plans is required for* Type I and II landfarms:**

   a. **items to be submitted regardless of land use:**

      i. **a detailed analysis of waste, including (but not limited to) pH, phosphorus, nitrogen, potassium, sodium, calcium, magnesium, sodium- adsorption ratio, and total metals (as listed in LAC 33:VII.715.D.3.b);**

ii. **soil classification, cation-exchange capacity, organic matter, content in soil, soil pH, nitrogen, phosphorus, metals (as listed in LAC 33:VII.715.D.3.b), salts, sodium, calcium, magnesium, sodium-adsorption ratio, and PCB concentrations of the processing zone;**

iii. **annual application rate (dry tons per acre) and weekly hydraulic loading (inches per acre); and**

iv. **an evaluation of the potential for nitrogen to enter the groundwater.**

b. **items to be submitted in order for landfarms to be used for food-chain cropland:**

i. **a description of the pathogen-reduction method for septage, domestic sewage sludges, and other sludges subject to pathogen production;**

ii. **crops to be grown and the dates for planting;**

iii. **PCB concentration in waste;**

iv. **annual application rates of cadmium and PCBs; and**

v. **cumulative applications of cadmium and PCBs;**

c. **items to be submitted for landfarms to be used for nonfoodchain purposes:**

i. **description of the pathogen-reduction method in septage, domestic sewage sludges, and other sludges subject to pathogen production; and**

ii. **description of control of public and livestock access.**

GGCV acknowledges the above citations; however, the facility is a not a landfarm and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

4. **The following information on operational plans is required for Type I-A and II-A incinerator waste-handling facilities and refuse-derived energy facilities:**

   a. **a description of the method used to handle process waters and other water discharges which are subject to NPDES permit and state water discharge permit requirements and regulations: and**
   b. **a plan for the disposal and periodic testing of ash (all ash and residue must be disposed of in a permitted facility).**

   GGCV acknowledges the above citations; however, the facility is not an incinerator and the above requirement is not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

5. **I-A and II-A refuse-derived fuel facilities and Type III separation and composting facilities:**

   a. **description of the testing to be performed on the fuel or compost, and**
   b. **a description of the uses for and the types of fuel/compost to be produced.**

   GGCV acknowledges the above citations; however, the facility is not a refuse derived fuel facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

6. **The operational plans for Type I-A and II-A refuse-derived fuel facilities and Type III separation and composting facilities must include a description of marketing procedures and control.**

   GGCV acknowledges the above citation; however, the facility is not a refuse derived facility or Type III separation and composting facility and the above requirement is not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

7. **The operational plans for Type I and II facilities receiving waste with a potential to produce gases must include a comprehensive air monitoring plan.**

   GGCV acknowledges the above citation; however, the facility is not a Type I or Type II facility and the above requirement is not required by LAC 33:VII.717. The facility is a Type I-A facility with no potential to produce gas. Therefore, the above citation is not applicable.

I. **Implementation Plan. Standards governing implementation plans are contained in LAC 33:VII.709.D (Type I and II facilities), LAC 33:VII.717.H (Type I-A and II-A facilities), and LAC 33:VII.719.E (Type III Facilities.**

1. **The implementation plans for all facilities must include the following;**

   a. **a construction schedule for existing facilities which shall include beginning and ending time-frames and time-frames for the installation of all major features such as monitoring wells and liners. (Time-frames must be specified in days, with day one being the date of standard permit issuance); and**

      This permit application is for a proposed Type I-A processing facility. All major features will be installed in accordance with the permit. Documentation regarding the installation of these features will be maintained on-site. An engineering certification report will be submitted to the LDEQ for approval prior to the commencement of operations.

   b. **details on phased implementation if any proposed facility is to be constructed in phases.**

      All equipment will be installed in one phase. Construction is estimated to be approximately 4-8 months. After construction, shipments to the facility will begin immediately.

      Georgia Gulf will not start accepting waste at the facility until an Order to Commence is issued by the Administrative Authority.

2. **The implementation plans for Type I and II facilities must include a plan for closing and upgrading existing operating areas if the application is for expansion of a facility or construction of a replacement facility.**

   GGCV acknowledges the above citation; the facility is not a Type I or Type II facility and the above requirement is not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

J. Facility Closure. Standards governing facility closure are contained in LAC 33:VII.711.E (Type I and II landfills), LAC 33:VII.713.E (Type I and II surface impoundments), LAC 33:VII.715.E (Type I and II landfarms), LAC 33:VII.717.I (Type I-A and II-A facilities, LAC 33:VII.721.D (construction and demolition debris and woodwaste landfills), LAC 33:VII.723.D (Type III composting facilities), and LAC 33:VII.725.D (Type III separation facilities):

1. The closure plan for all facilities must include the following:

a. the date of final closure:

The Office of Environmental Services, Permits Division will be notified in writing at least 90 days before closure or intention to close or abandon the facility. At that time, the date of planned closure and closure schedule, estimated cost and any changes in the approved closure plan will be submitted to the administrative authority.

b. the method to be used and steps necessary for closing the facility; and

The following steps will be taken to close the facility:

- The in-ground tank and associated equipment will be removed and decontaminated.
- Any precipitate remaining in the area will be removed and disposed of properly.
- Decontamination will consist of pressure washing and conducting a wipe test or similar test on the inside of the tank. The rinse water will be properly containerized and disposed of properly.
- GGCV will demolish and remove concrete, bulkhead, and piping. GGCV will break and remove sump pump and concrete from the site, extract, cut up and remove 30 ft. long steel sheets from site, extract, cut up and remove sump pump associated piping from the site and transport the demolition debris to a properly permitted off-site disposal facility.
- During this process, the site will be gated to prevent entry by unauthorized persons. At the completion of this process, the LDEQ will be requested to conduct a closure inspection of the site.

- Risk Evaluation/Corrective Action Program (RECAP) guidelines applicable at the time of closure will be used to collect soil/groundwater samples to ensure that no impact has occurred, and that conditions are protective of human health and the environment. The soil samples will be analyzed for constituents found in **Table 1**. For constituents for which LDEQ-derived Screening and/or RECAP Standards are provided, detected concentrations would be compared to the respective Screening and/or RECAP Standards applicable at the time of closure. For constituents not listed in RECAP, background samples and one sample from near the center of the in-ground tank will be taken in accordance with RECAP guidelines applicable at the time of closure to determine if site-related impacts have occurred.

- Although insect and rodent harborage is unlikely due to the nature of the waste, an insect and rodent inspection will be conducted and extermination measures implemented.

- The underlying soils will be sampled to verify that the soils have not been contaminated due to the operation of the facility. If contamination exists, a remediation/removal program will be developed to meet the standards of LAC 33:VII.713.E.3, 4, and 5.

After closure is approved, a request will be made to the administrative authority to release the closure fund, if applicable.

GGCV may elect to only leave the processing tank in-place and backfill the area after decontamination activities are completed.

c. **the estimated cost of closure of the facility, based on the cost of hiring a third party to close the facility at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive.**

The closure estimate is included as **Appendix M**. The closure cost reflects a current cost estimate for closing the facility and will be updated annually.

The cost estimate will be adjusted within 30 days following each anniversary of the date on which the initial cost estimate was prepared, on the basis of either (a) an inflation/deflation factor which is derived from the Gross National Product (GNP) Annual Price Deflator, published by the U.S. Department of Commerce in its Survey of Current Business, or (b) reestimation of the closure costs in accordance with Subsection A.2.b.i of this Section.

In addition, GGCV will revise the cost estimate whenever a change in the closure plan increases or decreases the cost of the closure plan and will submit a written notice of any such adjustment to the Administrative Authority within 15 days following reasonable determination of the adjustment.

2. **The closure plan for Type I and II landfills and surface impoundments must include:**

   a. **a description of the final cover and the methods and procedures used to install the cover;**

   b. **an estimate of the largest area of the facility ever requiring a final cover at any time during the active life;**

   c. **an estimate of the minimum inventory of solid waste ever on-site over the active life of the facility; and;**

   d. **a schedule for completing all activities necessary for closure.**

   GGCV acknowledges the above citations; however, the facility is not a Type I or Type II landfill or surface impoundment and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

3. **The closure plan for all Type I and II facilities and Type III woodwaste and construction/demolition debris facilities shall include the following:**

   a. **the sequence of final closure of each unit of the facility, as applicable;**

   b. **a drawing showing final contours of the facility; and**

   c. **a copy of the document that will be filed upon closure of the facility with the official parish recordkeeper indicating the location and use of the property for solid waste**

disposal, unless the closure plan specifies a clean closure.

GGCV acknowledges the above citations; however, the facility is not a Type I or Type II facility nor is it a Type III woodwaste and construction/demolition debris facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

K. Facility Post-closure. Standards governing post-closure requirements are contained in LAC 33:VII.711.F (Type I and II landfills), LAC 33:VII.713.F (Type I and II surface impoundments), LAC 33:VII.715.F (Type I and II landfarms), and LAC 33:VII.721.E (Type III construction and demolition debris and woodwaste landfills).

1. The post-closure plan for all facilities must include the following:

a. specification of the long-term use of the facility after closure, as anticipated; and

After closure, the facility will no longer be used for any solid waste applications. All solid waste materials will be removed.

b. the cost of conducting post-closure of the facility, based on the estimated cost of hiring a third party to conduct post closure activities in accordance with the closure plan.

This section is not applicable since post-closure monitoring is not planned.

2. The post-closure plan for Type I and II facilities must include the following:

a. the method for conducting post-closure activities, including a description of the monitoring and maintenance activities and the frequency at which they will be performed;

b. the method for abandonment of monitoring systems, leachate collection systems, gas-collection systems, etc.;

c. measures planned to ensure public safety, including access control and gas control; and

d. a description of the planned uses of the facility during the post-closure period.

GGCV acknowledges the above citations; however, the facility is not a Type I or Type II facility and the above requirements are not required by LAC 33:VII.717. Therefore, the above citation is not applicable.

L. Financial Responsibility. Standards governing financial responsibility are contained in LAC 33:VII.727. A section documenting financial responsibility according to LAC 33:VII.727 which contains the following information must be included for all facilities:

1. The name and address of the person who currently owns the land and the name and address of the person who will own the land if the standard permit is granted (if different from the permit holder, provide a copy of the lease or document which evidences the permit holder's authority to occupy the property); or

The owners of the land are included in **Appendix N**. The permit, if granted, will be owned by GGCV. A copy of the lease agreement in included in **Appendix A**.

2. the name of the agency or other public body that is requesting the standard permit; or, if the agency is a public corporation, its published annual report; or, if otherwise, the names of the principal owners, stockholders, general partners, or officers:

Georgia Gulf Chemicals & Vinyls, LLC

The latest available published annual report for Georgia Gulf Corporation is provided in **Appendix O**.

3. evidence of liability coverage, including:

a. personal injury, employees, and the public (coverage, carriers, and any exclusions or limitations);

b. property damage (coverage and carrier);

c. environmental risks; and

GGCV will obtain and maintain liability coverage as required by LAC 33:VII.727.A.1 in the amount of $500,000 for the site prior to commencing operations. A duplicate original of the documentation will be submitted to the Office of Management and Finance as part of the certification document GGCV will submit to the LDEQ once the facility is constructed. Further, GGCV understands that operations will commence only upon receipt of the Order to Commence.

Evidence of this coverage will be updated annually and provided to the Office of Management and Finance, Financial Services Division.

The financial mechanism for liability will be submitted to the Administrative Authority prior to commencing operations.

4. **evidence of a financial assurance mechanism for closure and/or post-closure care and corrective action for known releases when needed.**

GGCV will establish and maintain financial assurance for clean closure by means of a Letter of Credit that meets the requirements in LAC 33:VII.727.A.2 and adequate liability insurance coverage. The amount of the financial assurance mechanism will be equal to the cost estimate for closure of the facility.

The financial mechanism for closure will be submitted to the Administrative Authority prior to commencing operations.

M. Special Requirements

The administrative authority may require additional information for special processes or systems and for supplementary environmental analysis.

GGCV acknowledges that the administrative authority may require additional information for special purposes or systems and for supplementary environmental analysis.

LAC 33:VII.523

PART III: ADDITIONAL SUPPLEMENTARY INFORMATION

523. Part III: Additional Supplementary Information

OVERVIEW

Environmental permit applicants are required to provide relevant information in response to questions, commonly referred to as "IT Questions" that address the potential for facilities to adversely impact the human and natural environment in the vicinity of the proposed facility. These responses must be considered by the Louisiana Department of Environmental Quality (LDEQ) during the decision–making process on environmental permits pursuant to the Louisiana Supreme decision in the case of Save Ourselves, Inc. vs. Louisiana Control Commission. The following responses clearly demonstrate the following: the potential adverse environmental impacts resulting from the operation of the proposed facility have been avoided to the maximum extent possible; a cost-benefit analysis demonstrates that the social and economic benefits of the facility outweigh the environmental-impact costs; there are no possible alternative projects that would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits; there are no alternative sites that would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits; and there are no mitigating measures that would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits.

INTRODUCTION

Georgia Gulf Chemicals & Vinyls, LLC (GGCV) currently operates a Chlorine/ Caustic Plant at its Plaquemine facility located in Iberville Parish, Louisiana. The facility is approximately 300 feet south of the bank of the Mississippi River. The Type I-A solid waste processing facility is proposed to be located at 1159 Highway 70 South, Grand Bayou, Louisiana which is approximately 20 miles south of the GGCV Plaquemine facility. The processing facility will be located within the boundaries of the existing GGCV Brine Production Facility which is currently operated by Texas Brine Company, LLC (Texas Brine).

PURPOSE

The GGCV Plaquemine facility utilizes brine generated from the Napoleonville Salt Dome. The brine is mined from brine caverns by pumping water into the salt formation. Sodium Chloride (Salt), along with impurities (calcium, magnesium, strontium, barium, and other compounds) dissolves in the water within the cavern and is carried to the surface. The brine is then piped from the GGCV Grand Bayou location to GGCV's Plaquemine facility.

At the GGCV Plaquemine facility, the brine is purified to remove the impurities so that it can be utilized in Chlorine/Caustic plant. The brine purification begins with combining sodium hydroxide and carbon dioxide to form soda ash, which is used to increase the pH of the brine to a range of 10 to 10.5 which precipitates the impurities. The precipitated impurities are then removed from the brine with polymer enhanced

clarification and filtration techniques. Once precipitated, the solid impurities have a moisture content of approximately 40% to 70%.

GGCV proposes to return the brine precipitate via transport vessel to the Type I-A processing facility, which is currently operated by Texas Brine personnel, placing the material in an agitated in-ground tank, and returning the precipitate to the brine cavern(s) as a slurry.

Once the brine precipitate undergoes a dewatering process, they begin to accumulate in a temporary holding area. The temporary holding area is concrete. Once the brine precipitates are accumulated in the holding areas, they will be loaded into a designated transport vessel. The vessel will be weighed before leaving the facility to ensure that all Louisiana Department of Transportation and Development (LDOTD) regulations are met. A contractor will transport the vessel from the GGCV Plaquemine facility to the processing facility. Once at the processing facility, the material will be dumped into the in-ground tank. The vessel will then be washed and all wash water will be routed to the in-ground tank.

Once the transport vessel enters the processing facility, it is inspected to ensure that the waste is congruent with the manifest. The transport vessel will then be backed up to the in-ground processing tank. The brine precipitate is then dumped into a side of the tank that is segregated by a baffle from the mixing portion of the tank. Water or brine from on-site wells is then added to the tank and mixed by an agitator with the brine precipitate. The mixture, now approximately 70% moisture, is pumped from the tank to a salt cavern(s), which is regulated by the Louisiana Department of Natural Resources (LDNR).

The facility is only comprised of a processing area. Transport vessels deliver the brine precipitate directly to the processing area. The processing area is approximately 46' by 18'. The in-ground tank will have a grated cover. There will be no additional cover over the facility.

All waste material will be transported to the processing facility from the Plaquemine facility over established truck routes and in vehicles that: (i) are duly registered with applicable state and federal agencies and operated by properly licensed drivers; (ii) carry current United States Department of Transportation (USDOT) registration papers; and (iii) have a leak proof cargo carrying body.

The Type I-A processing permit application addresses all applicable requirements and standards for the in-ground tank that will be used to process the precipitate prior to returning to the brine cavern(s). The operation of the processing facility is designed to provide an environmentally sound and safe alternative to the treating of brine precipitate at the solid waste landfarm at the GGCV Plaquemine facility. Proper environmental, safety and process training are instituted to ensure that proper control is maintained at the solid waste processing facility in accordance with the facility's permit as well as LDEQ Solid Waste Rules and Regulations.

A. A discussion demonstrating that the potential and real adverse environmental effects of the facility have been avoided to the maximum extent possible:

This permit application is for a Type I-A brine precipitate processing facility to be located at 1159 Highway 70 South, Grand Bayou, Louisiana. The design of the facility will meet all applicable state and federal regulations of the solid waste permit. The principal objectives of the facility design is to minimize the potential for adverse environmental effects and to avoid, to the maximum extent possible, any adverse environmental effects. The design for the facility incorporates safeguards, engineering controls, and operations and maintenance programs that provide for minimal environmental impact. Consideration has been given to location characteristics, facility characteristics, surface hydrology, runoff, geology, and other factors in order to avoid and/or minimize to the greatest extent possible any adverse environmental effects. Operation of the facility in accordance with the standards of the solid waste regulations assures that real and potential adverse environmental effects of the facility will continue to be avoided to the maximum extent possible.

The facility is designed and will be constructed to minimize any potential pathways for the release of waste materials. The operation of the solid waste processing facility is designed to provide convenience, safety, and environmental compliance. The industrial waste (brine precipitate) will be transported by transport vessel from the GGCV Plaquemine facility to the processing facility where it will be unloaded into the brine precipitate processing tank. Employees will verify that the incoming waste manifests are complete and that the waste is brine precipitate prior to placing the waste in the tank. Sufficient equipment will be provided and maintained at the facility to meet operational needs. At a minimum, the equipment needed will include an agitator and a pump for brine/precipitate removal. All equipment involved in facility operations is periodically inspected and maintained to prevent breakdowns and ensure proper operation.

The potential adverse environmental effects from the proposed facility include impacts associated with litter, air contamination (odor, dust, *etc.*), groundwater contamination, surface water run-off, fires, explosions, and adverse effects associated with noise and adverse effects on adjoining properties. However, there are minimal real adverse environmental affects of the proposed facility. There are no endangered species, recreational areas, wildlife management areas, or sensitive ecological areas within 1,000 feet of the facility. Approximately 86% of the existing land use within three miles of the facility is agricultural and undeveloped land.

Listed hazardous wastes will not be received by the facility for processing. Hazardous wastes are wastes defined as a hazardous waste in the current Louisiana Hazardous Waste Regulations (LAC 33:V.) and/or by the Federal government under the Resource Conservation and Recovery Act and subsequent amendments. Only brine precipitate generated at the GGCV Plaquemine facility will be allowed for processing at the facility. The facility will

be utilized solely for the purpose of processing waste generated at the GGCV Plaquemine facility.

Waste handling procedures will be a high priority at the Plaquemine facility and the processing facility. The safety of workers, the public, and the environment will be ensured by procedures at each stage of incoming shipment to and processing of the industrial waste at the processing facility. All waste shipments to the facility will be initially staged at the GGCV Plaquemine facility, which will be equipped with a device or method to determine quantity (by wet-weight) on a monthly basis, sources, and types of outgoing waste. GGCV has tested the permitted waste stream for Toxicity Characteristic Leaching Procedure (TCLP) constituents and will test the stream upon each change in the process that may cause the TCLP analysis to change. This will confirm that the waste is not a characteristic or listed waste as defined in LAC 33:V.Subpart 1, or by federal regulations.

The waste tracking system is designed to provide complete information on the transport and final disposition of processed waste material generated at the Plaquemine facility and verify that the material is managed in accordance with existing federal, state and local laws. In addition, the system will ensure that all regulated wastes are properly accounted for and disposed. The operator at the processing facility will have the authority to accept or reject waste at the entrance gate. Additionally, manifests will be provided for the operator.

The facility will accept delivery of authorized waste that complies with the terms and conditions of the Permit and the following waste manifesting procedures:

- A completed manifest form accompanies the waste shipment, which complies with all applicable regulatory standards of the State of Louisiana and designates the processing facility to process and dispose of the industrial waste material
- The vehicle operator certifies that there is no non-authorized waste included in the waste shipment
- An authorized employee reviews the incoming manifest for propriety and accuracy
- GGCV retains one copy of the incoming waste manifest at the processing facility and one copy at the Plaquemine facility

The facility is only accessible by two roads. Both roads are gated and remain closed at all times. The gates can only be opened by employees of the facility. The gates prevent unauthorized ingress or egress, except by willful entry. A sign listing the types of waste processed by the facility will be posted at the entrance to the facility.

The outermost perimeter levee of the Texas Brine facility is constructed at 6 feet National Geodectic Vertical Datum (NGVD). The sidewalls of the processing tank will be constructed at a minimum 7 feet NGVD. The perimeter levee and side walls of the processing facility will prevent run-on from entering the

processing facility, divert storm water toward existing drainages, and provide sufficient freeboard for flooding and wave action. Additionally, a six-inch curb will surround the processing area. The pad for the processing area will be concrete and all rainwater that falls inside the curbed area will be routed to the in-ground tank. The system will be constructed in such a way to create no run-off and take no run-on. Anything that falls inside of the curbed area will remain contained within the concrete pad. The curbed area will also ensure that there is no run-on.

There will be no organic vapors, gases or odors emitted from the facility that would endanger local residents or other living organisms. For these reasons, as well as the operational controls in place, there will be no impacts to the environment as a result of odor, vectors, dust or litter. The processing facility will be an environmentally sound processing system with no toxic emissions or effluents.

Dust, litter, odors, pathogens, and vectors are not expected to be problems because of the nature of the material and the facility operations. All containers will provide containment of the wastes and thereby control litter, odor, and other pollution of adjoining areas. In addition, provisions will be made for at least daily cleanup of the facility, including equipment and waste-handling areas. All incoming material will be processed in an in-ground tank.

Groundwater contamination is not a problem because the processing facility will provide a complete enclosure with a concrete foundation for the processing equipment and the incoming brine precipitate material.

Given the nature of the material being utilized, the operations of the facility, and the safety and training programs, the likelihood of any impact to the general public or employees from fires, explosions, etc., is extremely remote. Although the possibility of fire or other emergencies from the operation of the facility is unlikely, emergency procedures will be in place to respond to any type of emergency that might arise at the facility. Additionally, fire protection and medical care services will also be available locally. Plans are also in place to transport seriously injured personnel to a local hospital. The emergency procedures will be reviewed annually or more often as needed.

In conclusion, no measurable adverse environmental impacts are anticipated to result from the operation of the proposed facility. Therefore, the potential and real adverse environmental effects of facility have been avoided to the maximum extent possible.

B. A cost-benefit analysis demonstrating that the social and economic benefits of the facility outweigh the environmental impact costs;

In as much as no measurable adverse environmental impacts of an enduring nature are anticipated to result from the operation, no specific or formal cost benefit analysis has been made, or is considered warranted, in connection with this permit application. Nevertheless, it is obvious that social and economic

benefits outweigh the environmental impact costs. The proposed facility is specifically designed and will be operated to minimize environmental impacts in a cost-effective manner. The proposed facility will be operated in conjunction with planned improvements to the existing infrastructure of the solid waste landfarm at the GGCV Plaquemine facility.

The proposed facility will serve only the GGCV Plaquemine facility; therefore, there are no direct social and economic benefits to the general public. There are indirect benefits to the local community because the proposed facility is the most cost-effective and acceptable means for continued solid waste management by GGCV. Any less desirable alternative would lead to negative social and economic impacts on the local community. For example, use of a public industrial landfill would significantly increase GGCV's disposal costs, which would have a negative effect on the viability of the plant and on local employment by GGCV. Use of a public industrial landfill would also use up landfill capacity that could otherwise be available to other industrial businesses that do not have the ability to develop their own waste management facility.

The proposed design provides the most cost effective and environmentally sound alternative for solid waste management for GGCV and surrounding areas. The design limits the operating footprint and reduces the environmental impacts of the existing operation.

The proposed facility will offer a significant reduction in landfill dependency and the need for landfarming. Moreover, the facility offers an environmentally sound and cost-effective method for managing the brine precipitate generated by GGCV. Additional consideration must also be given to the fact that the proposed facility offers a clean and environmentally sound technique to return the brine impurities to the cavern(s) from where they originated. The proposed facility serves the public and the environment.

There are no social costs associated with the proposed facility since the facility will be located in an existing industrial area and there are no known historical sites, recreational areas, archaeological sites, designated wildlife management areas, or habitat for endangered species within 1,000 feet of the site. Since the proposed facility will not adversely impact the environment in any way, its social and economic benefits are significant.

The proposed facility is essential to the operations of the GGCV Plaquemine facility. As such, operation of the proposed facility will be an integral part of the day-to-day operations of the GGCV Plaquemine facility. There are also economic benefits to the local vendors and suppliers that conduct business with GGCV. The economic viability of the facility is dependent upon the ability of GGCV to operate the proposed facility. GGCV employ a significant number of local residents and operates 24-hours a day, seven days a week, and 52 weeks per year and generates tax revenues for Iberville Parish, Assumption Parish, and the State of Louisiana.

The proposed facility will only accept brine precipitate generated at the GGCV Plaquemine facility. Economic development will not be precluded by this permit application because the proposed facility will be established in an existing industrial area and will only occupy an area approximately 9100 square feet. The facility will not negatively impact the economic viability of the surrounding community. In actuality, the surrounding community, parish, and state all benefit from the existence of the GGCV facilities. Moreover, since the proposed facility will be located within an existing industrial facility, property values will are not expected to be affected due to this project.

The responsibility for the operation, maintenance, monitoring, and closure will remain with GGCV. Financial assurances will be provided on an annual basis to the LDEQ in accordance with the Solid Waste Regulations.

In summary, the viability of the GGCV Plaquemine facility is dependent on GGCV's ability to continue utilizing environmentally sound waste management options for the brine precipitate. The proposed Type I-A processing facility is a key element in the continued operation of the Plaquemine facility and the long-term waste management practices at the site. An assessment of the benefits and the need for the operation of the Type I-A solid waste processing facility show clearly that the social and economic benefits of the facility outweigh the environmental impact costs.

C. A discussion and description of possible alternative projects that would offer more protection to the environment without unduly curtailing non-environmental benefits;

The proposed facility will be operated in conjunction with planned improvements to the existing infrastructure of the solid waste landfarm at the GGCV Plaquemine facility. Therefore, continued landfarming for the long-term is not a viable alternative project for the management of the brine precipitate generated at the GGCV Plaquemine facility.

As such an alternative project to the continued utilization of the existing on-site private landfarm and the proposed Type I-A facility include use of public/private industrial landfill for all solid waste disposal.

Use of a public industrial landfill would use up landfill capacity that could otherwise be available to other industrial businesses that do not have the ability to develop their own private industrial landfill. The proposed facility is considered to be superior to this alternative because it does not use public landfill capacity, and perhaps more importantly, it provides GGCV with complete control of facility operations and prevention of potential environmental impacts. The proposed facility also provides a long-term solution to GGCV's solid waste disposal needs, with future disposal costs being more predictable than they would be for the public landfill alternative. Additionally, the cost of landfilling is rapidly increasing due to the increased cost of construction, operation, closure and post-closure monitoring required to attain a reasonable level of protection to the environment.

More stringent standards are currently in-place for opening and operating landfill facilities. Consequently, the cost is ever increasing. In addition, it is becoming increasingly more difficult to site new facilities. As a result, existing landfill space is very valuable.

In conclusion, alternative waste handling or disposal methods are not economically feasible and are not warranted at this time from the standpoint of environmental protection. The alternative projects will unduly curtail GGCV's non-environmental benefits and will use up a public resource. Since no measurable adverse environmental impacts of an enduring nature are anticipated with the operation of the proposed facility, there are no possible alternative projects that would offer more protection to the environment without unduly curtailing non-environmental benefits.

D. A discussion of possible alternative facilities which would offer more protection to the environment without unduly curtailing non-environmental benefits; and

As is the case with existing facilities, the traditional sites analysis was not conducted in this particular case because GGCV has access to an existing infrastructure (Salt Domes) and given the status of the existing landfarm. As a result, GGCV began to investigate alternative options for solid waste management and the proposed project met the needs of GGCV in terms of an improved, environmentally sound cost-effective solid waste management program.

Location in an established industrial area (isolated area) is the most satisfactory buffer against any potential impacts on residential or public-use areas, and there are no alternative sites that would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits.

In evaluating alternative sites, GGCV considered transportation, future liabilities associated with the potential co-disposal of the GGCV waste with other waste streams that may pose a relatively greater hazard and the ability of commercial facilities to accept the waste.

Finally, no commercial facility offers the level of control over both immediate and long-term risks, which GGCV could provide with its own design and operation.

Additionally, environmental factors, social factors, and cost-related factors were critical issues in the site selection process.

In conclusion, because no measurable adverse environmental impacts of an enduring nature are anticipated to result from the operation of the proposed facility, no alternative locations are considered necessary. Hence, there are no alternative sites that would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits.

E. A discussion and description of the mitigating measures which would offer more protection to the environment than the facility, as proposed, without unduly curtailing non-environmental benefits.

GGCV has chosen the most environmentally sound and cost effective method to manage the brine precipitate generated at the GGCV Plaquemine facility. The proposed facility will have in place a management plan, controls and monitoring necessary to ensure optimum safe operation, to provide the most environmentally-sound approach to processing waste at the facility.

All regulated waste transported to the facility for processing will be managed at the Plaquemine facility for pre-processing review and screening for non-authorized waste, scheduling, staging, and timely dispatch to the processing facility. Each waste shipment from the Plaquemine facility will be reviewed, as prescribed, prior to shipment to the proposed facility.

The manifest waste tracking system is designed to provide GGCV with complete information on the processing of waste in accordance with existing federal, state, and local laws.

Procedures will be a high priority at the proposed facility. The safety of workers, the public, and the environment will be ensured by procedures at each stage of incoming shipment to and processing of the waste at the facility.

The facility will only receive waste generated at the GGCV Plaquemine facility. The handling, transport, and disposal of the waste will be under the direct supervision of trained personnel.

Planned development training, maintenance, and emergency procedures for the processing facility will ensure that all operating personnel perform safe and sound operating tasks, perform required equipment maintenance and be well-trained to deal with the event of a fire, waste spill or other contingency

In the event that there is spillage in transit to the processing facility, GGCV will take sole responsibility for the required clean up along and within any right of way of public access roads used for delivery of the waste to the processing facility, and promptly report the incident to regulatory authorities with relevant jurisdiction.

In the event that any incoming waste shipment comes into contact with the ground during such spillage and results in external contamination, GGCV will promptly implement emergency containment procedures and the affected area will be promptly cleaned.

GGCV maintains routine management and administrative records and documentation necessary for the preparation of reports required by the LDEQ as outlined in the Solid Waste Rules and Regulations. These records will be maintained throughout the operational life of the facility and kept on file for at least three years after closure.

GGCV's record-keeping system will contain the following, at a minimum:

- Copies of the current Louisiana Solid Waste Rules and Regulations
- The solid waste permit
- The solid waste permit application
- Solid waste permit modifications
- Manifest records
- Transporter identification numbers
- Any other applicable or required data deemed necessary by the administrative authority

The facility will maintain a copy of all applicable environmental permits, annual reports, records, and other documents specified in the permit application as necessary for the effective management of the facility and for preparing the required reports. These records will also be used to ensure compliance with state and federal regulations. The records shall be maintained for the life of the facility and shall be kept on file for at least three years after closure.

The records will be utilized to ensure that the facility is operated in accordance with all applicable permits. The records will also be used as the foundation for all reports required by the LDEQ and for the management of information for control of facility operations.

An annual report will be submitted to the LDEQ Office of Environmental Services, Environmental Assistance Division (OES-EAD) and Permits Division indicating quantities (expressed in wet-weight tons per year) and types and sources of material processed at the facility during the reporting period. This form will be updated if changed by the LDEQ. The reporting period for the annual report will be from July 1 through June 30 and will be submitted to the LDEQ by August 1 of each reporting year.

The GGCV Environmental Manager will have the responsibility of seeing that the processing facility's practices and processes are so engineered, constructed, maintained, and operated to provide safe and healthy conditions at all times. The GGCV Environmental Manager will ensure that a designated facility personnel will supervise all activities to ensure the safety of all persons at the facility through inspection, training, and instruction. Safety will be the primary consideration during all operating activities.

Each employee will receive initial and periodic on-going training through Safety Meetings supervised by the facility's site operations manager or designee. Such meetings will cover basic subjects such as: (1) personal protective equipment; (2) waste handling procedures; (3) operation of equipment; and (4) contingency operations.

As discussed in the response to LAC 33:VII.523.A, the potential and real adverse environmental impacts of the proposed facility have been avoided to the

maximum extent possible. This is a result of the design and operational measures that are incorporated into the facility to protect the environment.

In conclusion, the facility is designed and will be operated to meet or exceed all applicable environmental, industry, and company standards. No measurable adverse environmental impacts of an enduring nature are anticipated to result from the operation of the facility; therefore, no additional mitigating measures are deemed necessary. Should applicable environmental standards and limitations be redefined in the future, appropriate environmental controls and mitigating measures will be designed and implemented as necessary to achieve the revised standards and limitations. GGCV knows of no other mitigation measures, in terms of site selection, project design, project operations, or waste reduction/recycling, which would offer more protection to the environment than the utilization of the proposed facility without unduly curtailing non-environmental benefits.

TABLE 1

SAMPLING CONSTITUENTS

Table 1
Constituents to be Sampled

Constituent	Soil	Groundwater
Total Organic Carbon	X	X
Total Dissolved Solids		X
Total Kjeldahl Nitrogen	X	X
Chlorides	X	X
Total Halogenated Hydrocarbons	X	X
Arsenic	X	X
Barium	X	X
Cadmium	X	X
Chromium	X	X
Copper	X	X
Lead	X	X
Zinc	X	X
Mercury	X	X